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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,133	07/08/2003	Mary Morabito O'Neill	02W234	8119

7590

03/28/2006

Raytheon Company
Intellectual Property & Licensing, EO/E04/N119
2000 East El Segundo Boulevard
P. O. Box 902
El Segundo, CA 90245

EXAMINER

CHAMBERS, TROY

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/615,133

Applicant(s)

O'NEILL ET AL.

Examiner

Troy Chambers

Art Unit

3641

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 15 March 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

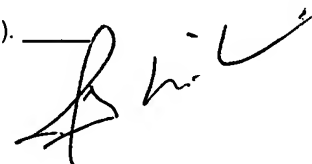
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

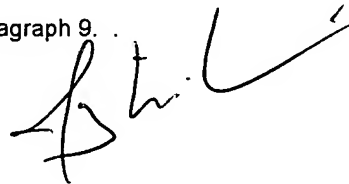
REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☒ Other: See Continuation Sheet.



Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments are unconvincing. With respect to applicant's 3 requests: A copy of the rejection is attached with paragraph 9 amended to include claims 13 and 21 as rejected claims; claims 3, 5, 7 9 and 10 will be re-instated upon allowance of the independent claim from which they depend; there are no further problems so the case should not be withdrawn. The applicant may proceed to appeal .

Continuation of 13. Other: copy of previous office action included with changes to paragraph 9. .

A handwritten signature in black ink, appearing to be "B. H. L.", is written over the text of the continuation of 13.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 2, 4, 6, 8 and 11-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, methods claims are required to be written as a series of steps to be taken in a logical order. Applicant's claim 1 initially requires that the aircraft be "provided in flight". The claim then goes on to require that an external viewing location be determined based on a "greatest threat". It is the examiner's position that the original specification did not describe such a procedure and is, therefore, new matter.

3. Claims 1, 2, 4, 6, 8 and 11-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As discussed above, the applicant's original specification does not disclose how or in what manner one

Art Unit: 3641

determines an external viewing location associated with a greatest threat once the aircraft is in flight.

Claim Rejections - 35 USC § 102

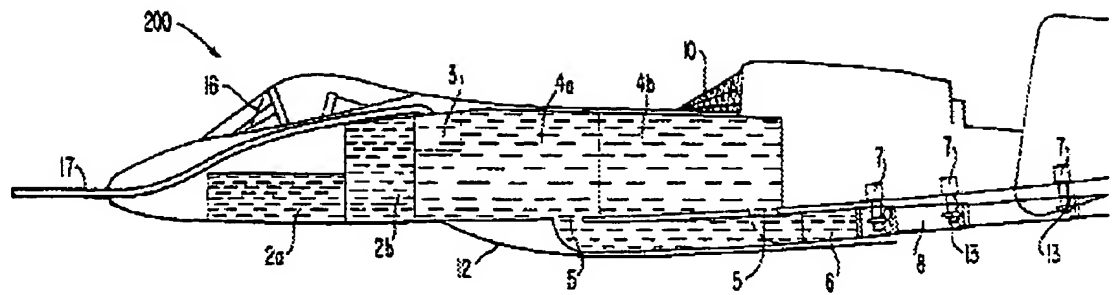
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

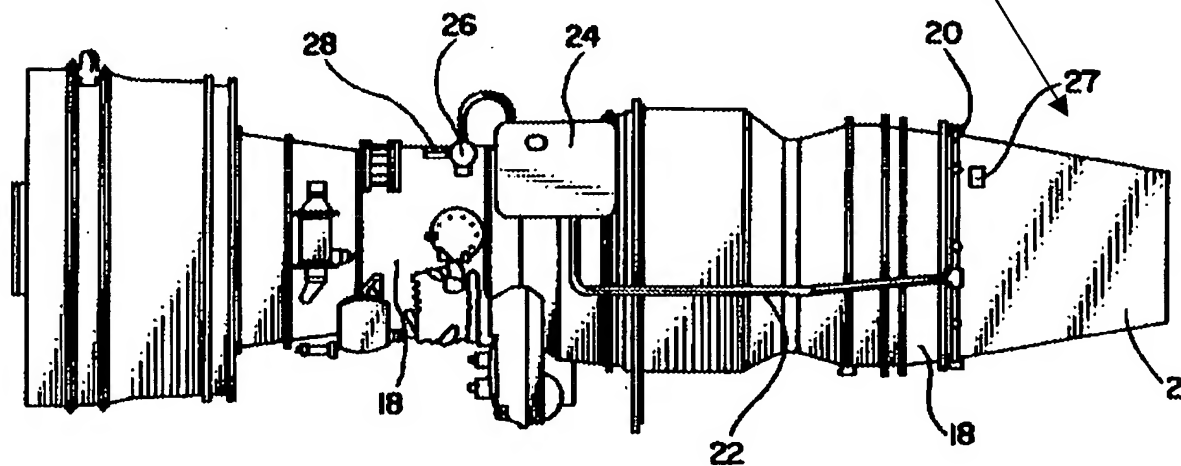
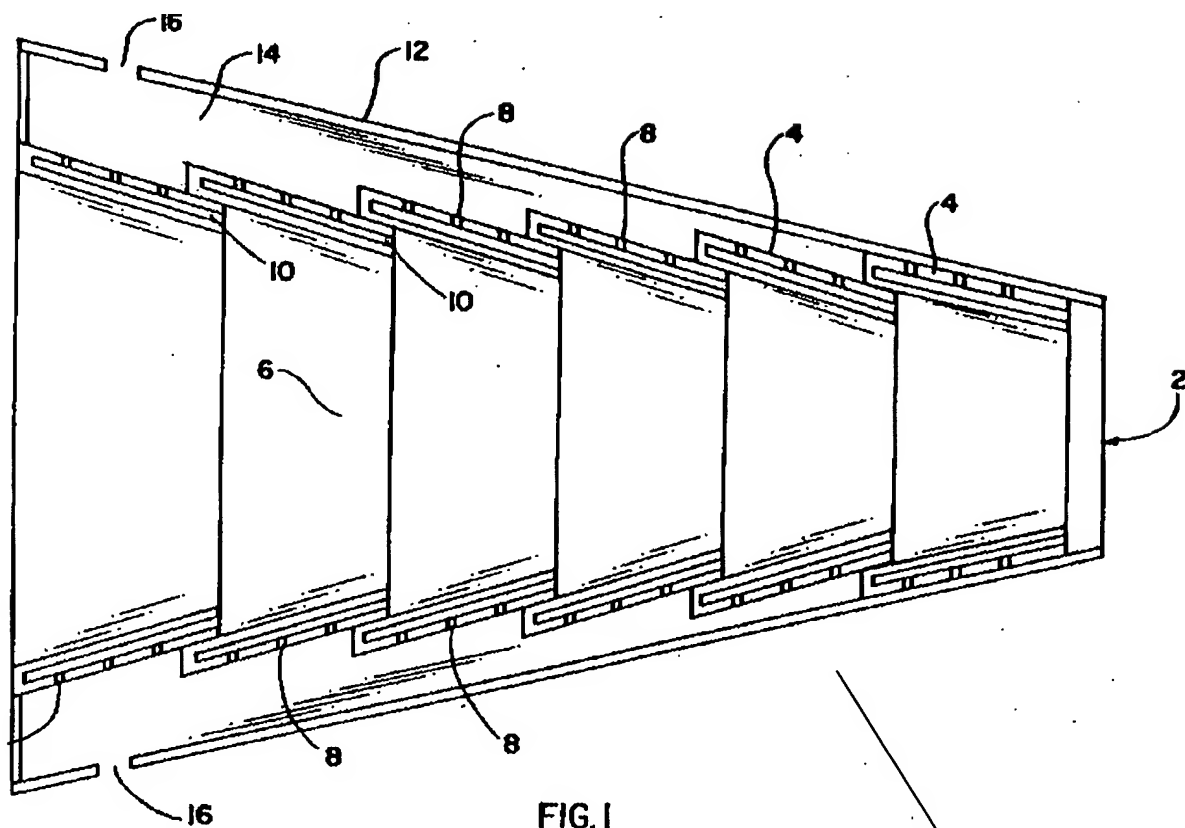
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4, 6, 14, 15, 16, 22, 23, 24 and 26 are rejected under 35 USC 102(b) as being anticipated by U.S. 5549259 issued to Herlik. Herlik discloses a method of obscuring an aircraft from infrared detection from an external viewing location. Specifically, Herlik discloses an airtanker comprising a converted A-10 Thunderbolt aircraft for transporting a pilot and fire retardant. The aircraft has two engines as shown in Figs. 1 and 3. The aircraft is provided with a source of obscuring agent comprising water (col. 8, ll. 12-15). The obscuring agent is ejected out of nozzle 9. A viewing location is established within the stream of fluid. A fire can be considered an "attack" on an aircraft due to the heat and dense smoke emanating therefrom which necessitates determining which area of the fire poses the greatest threat and, therefore, should be dealt with first. The fire retardant can be generated on the aircraft (col. 8, ll. 7-16). The A-10 is not disclosed as having an infrared warning system or flares.



1.

6. Claims 1, 2, 4, 6, 14, 15, 16, 22, 23, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5269132 issued to Loucks. Loucks discloses a method for obscuring a transport aircraft from a serious threat of surface-to-air and air-to-air infrared guided missiles. A jet aircraft engine having a tailpipe is shown in Fig. 5. The tailpipe includes a nacelle covering forming a liquid cooling chamber with a plurality of cooling panels 4 as shown in Fig. 1. The cooling chamber is supplied with a coolant mixed with water (col 3, ll. 4-9) contained in a reservoir 24. The coolant is ejected from the reservoir 24 via coolant line 22 to the coolant chamber and into a cavity formed within the cooling panels 4. The coolant filled panels form a vaporous boundary layer between an external viewing location and the heat source, which comprises engine exhaust flowing from the aircraft. The device can be used on auxiliary engines as well as main engines. The aircraft is not disclosed as having a flare or early warning system. The coolant does not mix with the gas discharge.



7. With respect to applicant's claim 6, a positive step reciting "generating an obscuring agent on board the aircraft" should be used to further limit the

Art Unit: 3641

independent claim. In any event, the water used in the reservoir is capable of being "generated" anywhere, including on-board the aircraft.

8. Claims 1, 2, 4, 6, 11, 14, 16, 22, 23, 24 and 26 are rejected under 35 USC 102(b) in view of US 4979571 issued to MacDonald. MacDonald discloses a method for obscuring an aircraft from infrared detection. Specifically, MacDonald discloses a foam producing apparatus for fighting fires comprising a helicopter as shown in Fig. 4 for transporting a pilot and fire retardant. A viewer at reference number 122 with infrared capabilities can see the heat given off by the engines of the helicopter. A mixture of CO₂ and water is used to put out fires (col. 6, ll. 41-66) at 122. A viewer at viewing location 122 would have its view of the engine heat (or exhaust plume) obscured by the flow of fire retardant. The obscurant is generated on the aircraft as shown at col. 6, ll. 41-66+. The method is capable of obscuring an auxiliary unit of the helicopter as well as the main engines. There is no disclosure of flares or infrared systems on the helicopter. The retardant is ejected from the front of the helicopter.

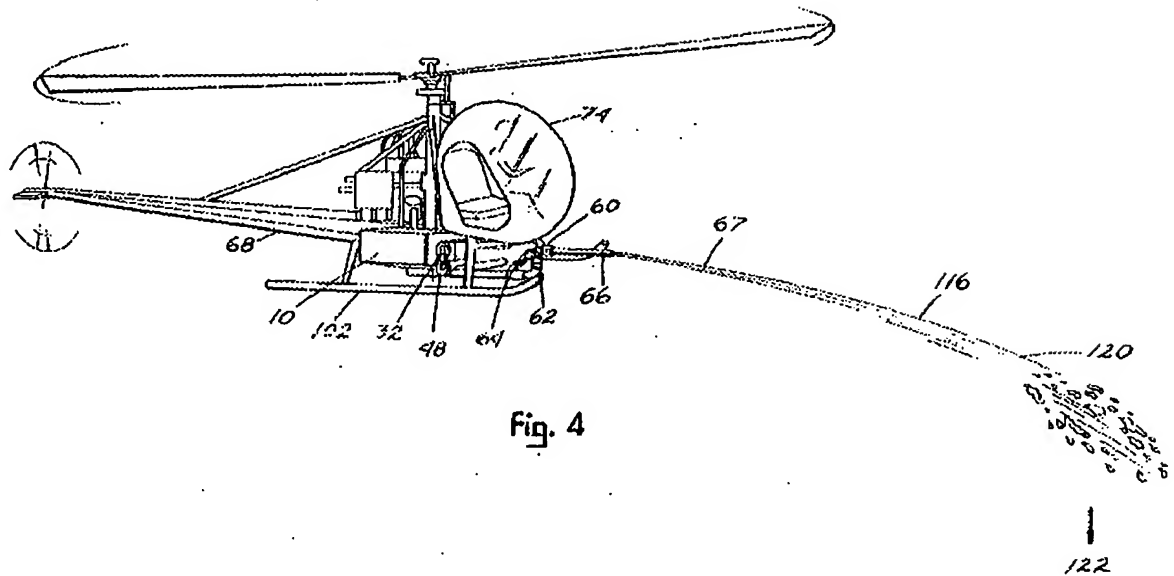


Fig. 4

9. Claims 1, 2, 4, 6, 8, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by the Space Shuttle ("shuttle") and the supporting documents cited herein. Any supporting documents used in the rejection are cited to show the inherent design features of the shuttle. The shuttle has remained the same for about 30 years with the exception of O-ring and crew safety design changes that have no bearing on the applicant's claimed invention.

10. The shuttle has two sets of engines: main engines which are fueled by liquid propellants and solid rocket boosters (SRBs) that are fueled by solid propellant. During the lift-off procedure the shuttle's main engines are brought to 90 percent power, creating a plume with a temperature in excess of 150 degrees Celsius. A person standing under the engines or three miles away would be able to view the plume created by the engines. The shuttle has a "source" of

Art Unit: 3641

obscuring agent comprising liquid hydrogen, liquid oxygen and solid propellant (See any one of "Space shuttle main engine biography", "Solid Rocket Boosters", "How Space Shuttles Work" and "Space shuttle main engine"). At T minus 0 seconds the SRBs engines ignite the "source" of obscurant comprising solid propellant. As shown in the photos below, the shuttle is riding on a plume having a temperature greater than 150 degrees Celsius and is followed by great clouds of exhaust material, said exhaust inherently including traces of carbon dioxide and water vapor having a temperature less than that of the plume. As shown below, a viewer directly below or to the side of the shuttle during launch would have its view (infrared or otherwise) obscured by the clouds of obscuring agent.

11. With respect to claim 2, the shuttle transports equipment and astronauts into space.

12. With respect to claim 4, the hot region is a plume flowing from either the main engines or SRBs.

13. With respect to claim 6, the exhaust gasses are generated in the engines of either the SRBs or main engines.

14. With respect to claim 8, the exhaust gas is formed in the internals of the main or SRB engine compartments.

15. With respect to claim 11, refer to the rejection of claim 1.

16. With respect to claim 12, solid particles of carbon particles are inherently present in the exhaust gas cloud.

Art Unit: 3641

17. With respect to claim 13, the SRBs contain other sources of fuel such as aluminum, iron oxide which would be present in the exhaust gasses at liftoff.

(See, Solid Rocket Boosters).

18.

19. With respect to claim 14, the shuttle has 3 main engines and 2 SRBs.

20. With respect to claim 15, refer to the rejection of claim 1.

21. With respect to claim 17, refer to the rejection of claims 1, 2, 4, 6, 8, 11, 12, 14 and 15.

22. With respect to claim 18, the SRBs contain other sources of fuel such as aluminum, iron oxide and a polymer (See, Solid Rocket Boosters).

23. With respect to claim 19, the exhaust gas is formed in the internals of the main or SRB engine compartments.

24. With respect to claims 20 and 21, refer to the rejection of the claims above.

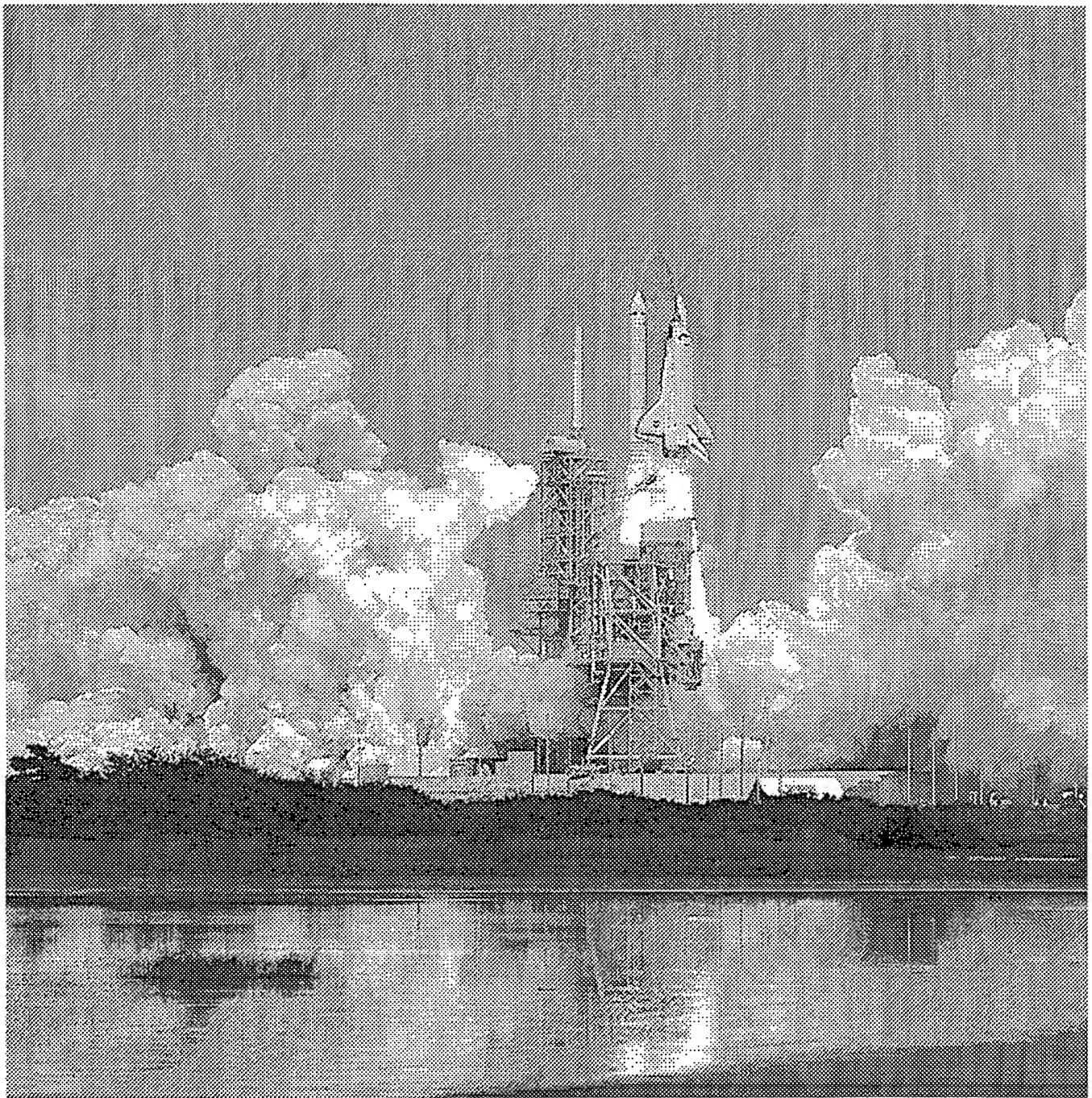
25. With respect to claim 22, the obscuring agent is generated in the engines of the shuttle.

26. With respect to claim 23, the references provided do not disclose the shuttle having flares or infrared threat warning system.

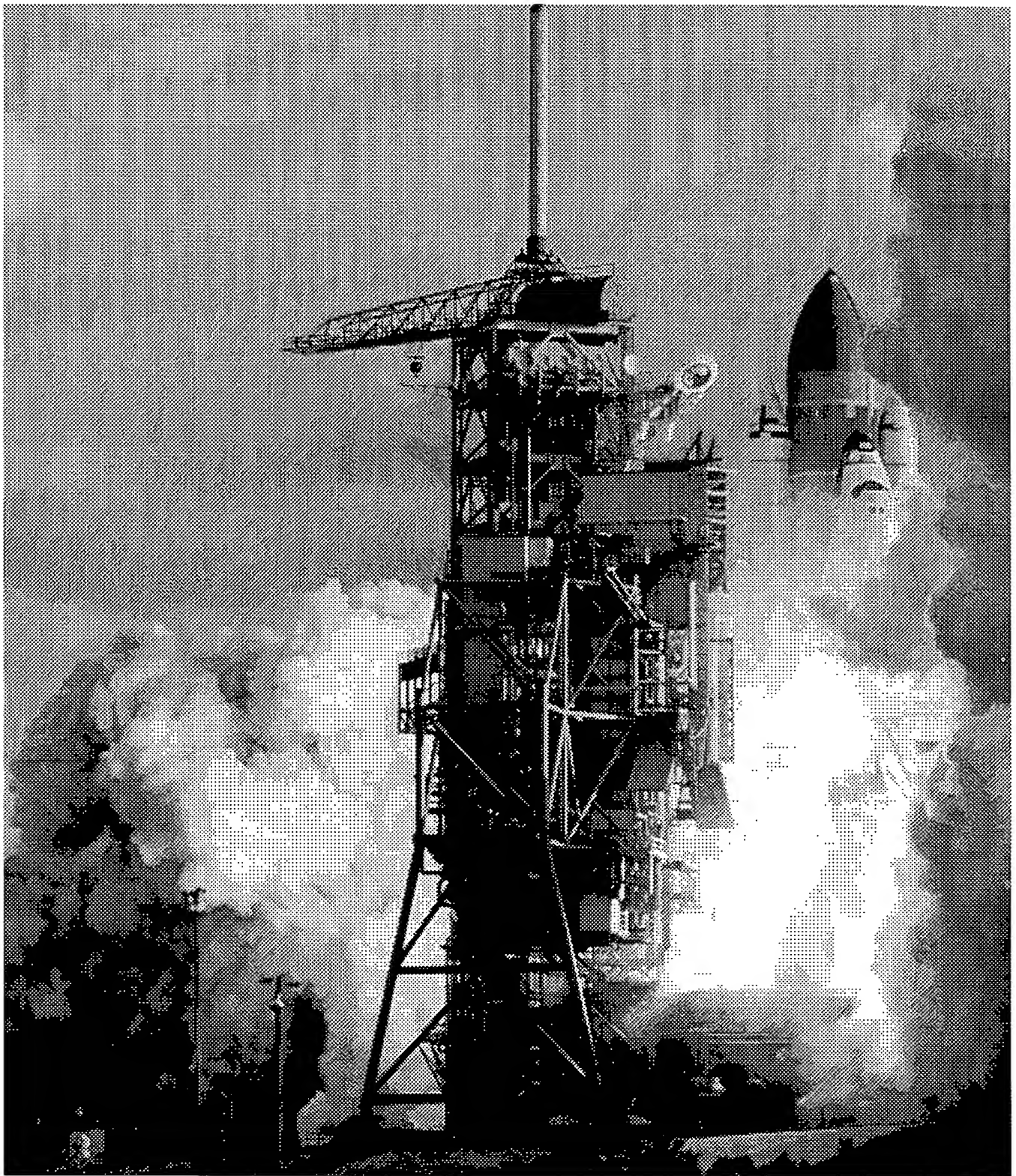
27. With respect to claim 24, the obscuring agent is ejected to the sides and rear of the shuttle.

28. With respect to claim 25, millions of pounds of solid and liquid rocket fuel are consumed and exhausted in a relatively short period which is thousands of times greater than the 4 pounds per second claimed by the applicant.

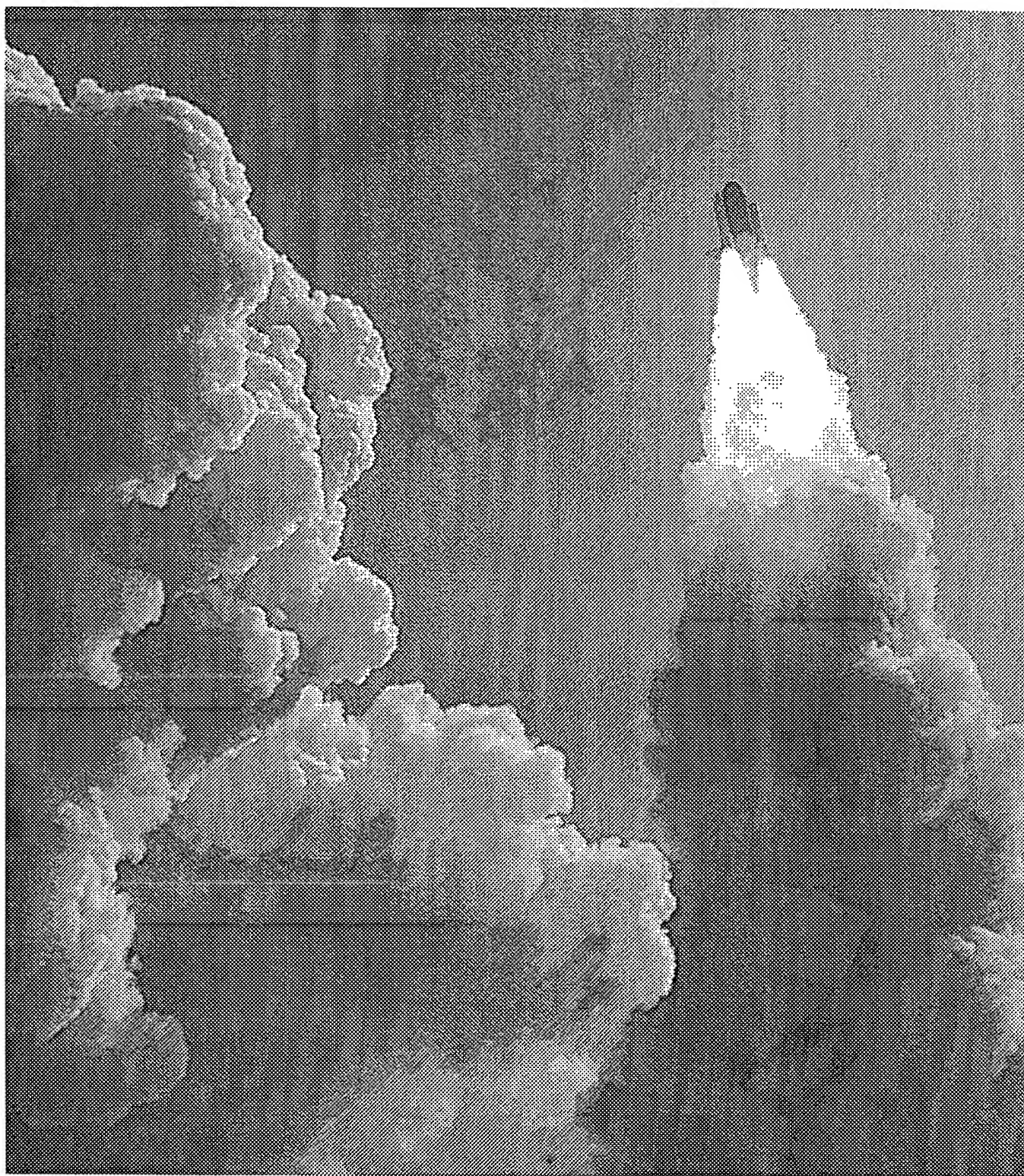
Art Unit: 3641

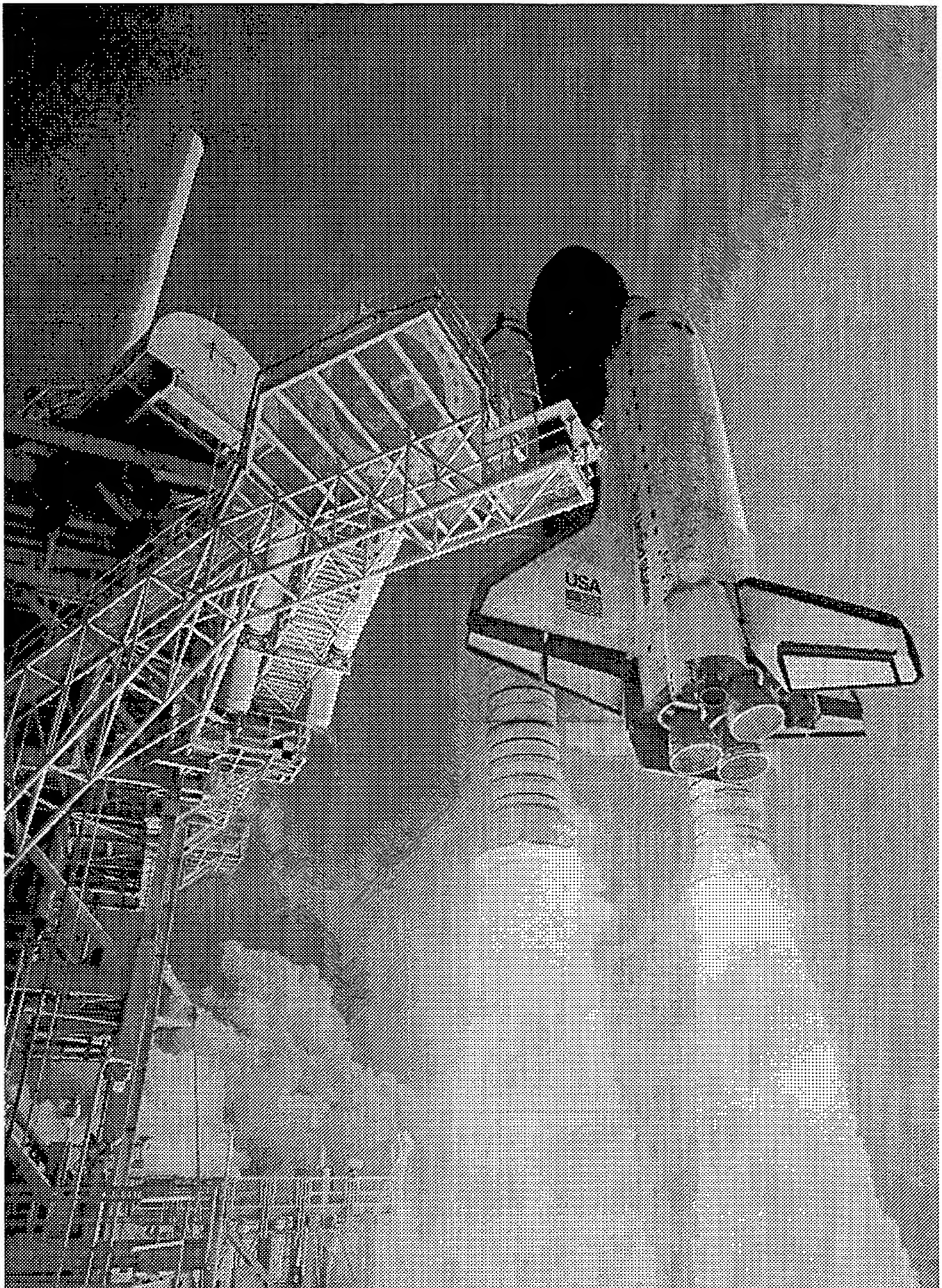


Art Unit: 3641



Art Unit: 3641





Response to Arguments

29. Applicant's arguments filed 01/20/06 have been fully considered but they are not persuasive. Applicant has amended the claims with subject matter that is not positively recited and, therefore, do not serve to limit the claims. For example, if "an attack" is desired in claim 1, then it should be recited as a positive step (e.g. "attacking the aircraft..."). As it stands, the additional subject matter added to claim 1 merely require an external viewing location which is inherent in each cited prior art reference. Similar requirements are necessary for claims 17 and 22. In the "providing a transport aircraft" clause, the applicant should positively recite the desired structure (e.g., said aircraft having a nacelle or auxiliary power unit at X).

30. Claims 13 and 21 were addressed in the previous Office action at paragraphs 15 and 22, respectively.

Conclusion

31. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory

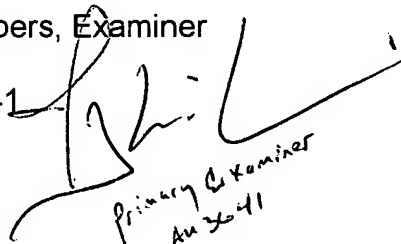
Art Unit: 3641

period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (571) 272-6874 between the hours of 7:00 a.m. to 3:30 p.m., M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (571) 272-6873.

Troy Chambers, Examiner

Art Unit 3641



Primary Examiner
Au 3641